MADAYEVA, O. S.

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Estrogenic activity of dimers of anol. II. Synthesis of isomeric 3,5-bis(p-hydroxyphenyl)-4-methylpentenes. O. S. Madaeva, N. M. Goncharova, and V. I. Maksimov (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 23, 472-8(1953); cf. *C.A.* 45, 4813e.—Nitrating 50 g. $EtCHPhCO_2H$ in 330 g. concd. H_2SO_4 with 27.8 g. HNO_3 (d. 1.52) and 33.7 g. concd. H_2SO_4 at 5°, letting stand 24 hrs. and quenching in ice gave 50% p-$O_2NC_6H_4CHEtCO_2H$, m. 120-2° (from 50% AcOH), reduced over Raney Ni to 78.3% *p-amino analog*, m. 138.5-40.0°; this (35.8 g.) in 58.8 g. concd. H_2SO_4 and 160 ml. H_2O diazotized with 15.2 g. $NaNO_2$ in 40 ml. H_2O at 5° and the soln. added to 720 g. 8% H_2SO_4 at reflux yielded 77.8% *p-HO analog*, m. 127-8°, which with Me_2SO_4 gave 94% *p-MeO analog*, m. 65-7° (from petr. ether). This with $SOCl_2$ gave the *acyl chloride*, b_{12} 133-5°. To MeMgBr from 4.8 g. Mg was added with cooling 29.9 g. anhyd. $CdBr_2$, the mixt. stirred to complete disappearance of MeMgBr (neg. test with Michler ketone), and the product treated with 21.2 g. of the above acyl chloride; after 1 hr. at 40° and standing overnight, the usual hydrolytic treatment gave 82.4% *3-(p-methoxyphenyl)-4-pentanone*, $b_{3.4}$ 87-8°; *semicarbazone*, m. 187-8°. p-$MeOC_6H_4CH_2CO_2H$ (17.7 g.) in EtOH was neutralized with 5.71 g. Na_2CO_3 and the resulting Na salt dried *in vacuo* at 130° followed by azeotropic distn. of added C_6H_6. The product (20 g.) was rapidly added to refluxing iso-PrMgCl (from 4.43 g. Mg and 5.6 g. RCl) and the whole heated to 55-60° (bath temp.) until the evolution of propane subsided; at this point, 8.76 g. iso-PrCl was added over 1.5-2 hrs., heating continued until the propane evolution stopped (under such conditions some 70% RMgCl is formed), the mixt. treated, with ice-water cooling, with 22.47 g. p-$MeOC_6H_4CHEtCOCl$ and the whole refluxed 3 hrs., then decompd. with 25% NH_4Cl, the mixt. acidified to Congo red with H_2SO_4, refluxed 2 hrs. to decarboxylate the oxo acid, and the cooled soln. extd. with Et_2O; the ext. yielded 47.8% *3,5-bis(p-methoxyphenyl)-4-pentanone*, b_1 187-200° (crude), m. 51-2° (from EtOH); this failed to yield any of the usual ketone derivs. in solid form. This ketone (5 g.) added with cooling to MeMgBr from 1.17 g. Mg and refluxed 2 hrs. gave,

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after decompn. with 25% NH_4Cl, acidification with H_2SO_4, and extn. with Et_2O, 93% *3,5-bis(p-methoxyphenyl)-4-methyl-4-pentanol*, characterized only by elementary analysis. This (5.1 g.) refluxed with 4.7 g. AcCl until HCl evolution ceased, treated with ice, neutralized with NaOH, and extd. with Et_2O gave 71.5% yellow oil (corresponding to $C_{20}H_{24}O_2$), $b_{0.4}$ 180-7°; oxidation of this with $KMnO_4$ in Me_2CO gave anisic acid and *3-(p-methoxyphenyl)-4-pentanone*, isolated as the *semicarbazone*, m. 180°. The dehydration product (3.4 g.) heated in an autoclave with 7.6 g. KOH and 19 g. MeOH 24 hrs. at 225-30° gave 1.95 g. *mixed 3,5-bis(p-hydroxyphenyl)-4-methylpentenes* (I), yielding on distn. a fraction $b_{0.4}$ 190-3°, which, treated with cold C_6H_6, gave pure *3,5-bis(p-hydroxyphenyl)-4-methylpentene*, m. 98-9°, identical with that obtained by demethylation of isoanethole; the product gave a *p*-nitrobenzoate, m. 164°, identical with the ester of isoanol. I has a high estrogenic activity (causes estrus in mice at 0.5 γ subcutaneous dosage), much higher than that of isoanol (100 γ). The absorption spectrum of the mixt. is almost a duplicate of that of isoanethole. G. M. Kosolapoff

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Estrogenic activity of dimers of anol. II. Synthesis of the isomeric 3,5-bis(*p*-hydroxyphenyl)-4-methylpentenes. O. S. Madaeva, N. M. Goncharova, and V. I. Maksimov. *J. Gen. Chem. U.S.S.R.* 23, 487-92(1953)(Engl. translation).—See *C.A.* 48, 5130*d*. H. L. H.

MADAYEVA, O.S.; BABANOVA, N.P.; RODIONOV, V.M., akademik.

Certain properties of n-toluenesulfonic acid esters of 17 β-oxysteroids. Reduction of 3β -acetate-17β-n-toluenesulfonate of androstenediol by lithium-aluminum hydride. Dokl.AN SSSR 92 no.1:79-80 S '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Rodionov). 2. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S.Ordzhonikidze (for Madayeva and Babanova).
(Esters)

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Some properties of esters of p-toluenesulfonic acid and 17β-hydroxy sterols. III. Reaction of 17-tosylate of 5-androstene-3β,17β-diol and its 3-acetate with organomagnesium compounds and halogen salts of magnesium. O. S. Madaeva (S. Ordzhonikidze All-Union Research Chem.-Pharm. Sci. Inst., Moscow). *Zhur. Obshchei Khim.* 25, 1427-31 (1955); cf. *C.A.* 47, 3320c.—MeMgI, from 0.15 g. Mg, treated with cooling with 0.90 g. 17-tosylate of 5-androstene-3β,17β-diol, and refluxed 3 hrs. gave after usual aq. treatment 0.6 g. *17-iodo-5-androsten-3β-ol*, m. 135-5.5° (from MeOH). Similar reaction with EtMgCl, completed in C_6H_6 at 60° 4 hrs. gave a tarry product which was acetylated with Ac_2O-pyridine and the product was chromatographically purified on Al_2O_3 in petr. ether-C_6H_6, yielding *retroandrostadienol 3-acetate*, m. 95-5.5°. Reaction of 5-androstene-3β,17β-diol 3-acetate 17-tosylate with MeMgI similarly gave *17-iodo-5-androsten-3β-ol 3-acetate*, m. 151-2°. Cholesterol and p-$MeC_6H_4SO_2Cl$ in pyridine gave 82% *cholesteryl tosylate*, m. 131°. This (0.1 g.) heated with 10 ml. Me_2CO and 0.1 g. LiCl in a sealed tube 9 hrs. at 92-4° gave *β-cholesteryl chloride*, m. 95°. Borneol and p-$MeC_6H_4SO_2Cl$ in pyridine gave *borneol tosylate*, m. 66-7°, which with MeMgI gave only a tarry material containing free iodine and free of S. The tosyl group in the 17-position is not replaced by the action of ZnI_2 in Et_2O, MgI_2 or alkali metal iodides in Me_2CO. Also in *J. Gen. Chem. U.S.S.R.* 25, 1373-6(1955) (Engl. translation). G. M. Kosolapoff

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Some properties of esters of *p*-toluenesulfonic acid and 17β-hydroxysterols. IV. Quaternary pyridinium salts of ditosylate of 5-androstene-3β,17β-diol. O. S. Madaeva and N. P. Babanova. *J. Gen. Chem. U.S.S.R.* 25, 1895-7 (1955)(Engl. translation).—See *C.A.* 50, 8700*d*.

B. M. R.

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Some properties of esters of *p*-toluenesulfonic acid and 17-β-hydroxysterols. IV. Quaternary pyridinium salts of ditosylate of 5-androstene-3β,17β-diol. O. S. Madaeva and N. P. Babanova (S. Ordzhonikidze All-Union Sci. Research Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 25, 1950-3(1955); cf. *C.A.* 50, 5008g.—To 5 g. 5-androstene-3β,17β-diol (I) in 15 ml. dry pyridine was added with cooling 6.7 g. *p*-$MeC_6H_4SO_2Cl$ and the mixt. kept at room temp. 4 days. After treatment with water, soln. in C_6H_6 and washing the ext. with dil. HCl, there was obtained on evapn. of the solvent 7.3 g. I *ditosylate*, m. 138.5-9.5° (from petr. ether-Me_2CO), $[\alpha]_D^{18}$ −69° ($CHCl_3$). This (7.3 g.) in 730 ml. pure Me_2CO (free of alc.) was refluxed 4 hrs. with 420 ml. H_2O and 0.3 g. $MgCO_3$; after concn., soln. in Et_2O, washing the soln. with H_2O, drying and evapn. there was obtained 3.44 g. corresponding *17-tosylate*, m. 128.5-9.5°. To 0.5 g. I in 2 ml. dry pyridine was added 0.98 g. *p*-$MeC_6H_4SO_2Cl$ and the mixt. heated 0.5 hr. at 70°, allowed to stand overnight, and treated with H_2O as above; there was obtained an unstated yield of *3-monopyridinium salt* of the above *ditosylate*, $C_{38}H_{47}O_6NS_2.H_2O$, m. 139-40° (from Me_2CO), $[\alpha]_D^{18}$ −29.83° ($CHCl_3$). This in Me_2CO, treated with NaI, rapidly gave a ppt. of *p*-$MeC_6H_4SO_3Na$, while the soln. yielded the monopyridinium salt of *3-iodo-5-androstene-17-ol tosylate*, m. 183-3.5° (from Me_2CO-Et_2O).

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Some properties of esters of *p*-toluenesulfonic acid and 17β-hydroxy steroids. VI. Synthesis of the acetate of 17,17-dimethyl-18-nor-5,12-androstadien-3β-ol. O. S. Madaeva (S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* 26, 3198-201 (1956); cf. *C.A.* 51, 8124*h*.—Heating 5 g. 17α-methyl-5-androstene-3β,17-diol, m. 200-3°, with 15 ml. 98% HCO_2H 5 min. at 100°, cooling, and treating with H_2O gave 3.25 g. *17,17-dimethyl-18-nor-5,12-androstadien-3β-ol formate*, m. 107-7.5° (from MeOH), while the residue after chromatography on Al_2O_3 in C_6H_6-petr. ether yielded 0.7 g. product, m. 129.5-30.5°, identical with the hydrolysis product of the formate. Refluxing the formate 1.25 hrs. with 24.4 ml. MeOH and 1.70 g. K_2CO_3 in 7 ml. H_2O gave 2.47 g. *17,17-dimethyl-18-nor-5,12-androstadien-3β-ol*, m. 133-3.5°. This treated with Ac_2O in pyridine 24 hrs. at room temp. gave *17,17-dimethyl-18-nor-5,12-androstadien-3β-ol acetate*, m. 78-8.5°, $[\alpha]_D^{19}$ −178.4° ($CHCl_3$). This hydrogenated in AcOH over Pt added 1 mole H_2, yielding an oily product, which freed of the Ac group by hydrolysis with K_2CO_3 in aq. MeOH 1.25 hrs., gave *17,17-dimethyl-18-norandrostan-3β-ol*, m. 132-3° (from Me_2CO). G. M. Kosolapoff

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Some properties of esters of *p*-toluenesulfonates of 17β-hydroxysteroids. V. Products of dehydration of 17α-methylandrostane-3β,17-diol and its derivatives. O. S. Madaeva (S. Ordzhonikidze All-Union Chem.-Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* 26, 2937-42 (1956); cf. *C.A.* 47, 3320c; 50, 12089k.—Hydrogenation of 5 g. 17α-methyl-5-androstene-3β,17-diol(Ia) in pure AcOH over Pt (2 moles H taken up) gave 3.8 g. *17α-methylandrostane-3β,17-diol*, m. 210-11° (from EtOAc). This (3.8 g.) in 19 ml. 98% HCO_2H heated 5-7 min. to 90°, cooled, quenched in H_2O, and extd. with Et_2O gave 3.75 g. *17,17-dimethyl-18-nor-12-androsten-3β-yl formate* (I), m. 75-6.5°, $[\alpha]^{20}_{D}$ −41.7° ($CHCl_3$), which (0.35 g.) in 5 ml. MeOH was refluxed 1.3 hrs. with 0.23 g. K_2CO_3 and 0.42 g. H_2O, yielding 0.25 g. *17,17-dimethyl-18-nor-12-androsten-3β-ol*, m. 134-5° (from Me_2CO), which was hydrogenated in AcOH over Pt (1 mole H used) to *17,17-dimethyl-18-norandrostan-3β-ol*, m. 132-3°, $[\alpha]^{20}_{D}$ −14.66° ($CHCl_3$). Treatment of 3.11 g. I in Et_2O with 2.7 g. osmic anhydride at 15-16° 3 days, sepn. of the resulting ppt. and refluxing this 2 hrs. with 10 g. Na_2SO_3 in 0.5 l. H_2O and 280 ml. EtOH (this operation is re-

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peated twice with the resulting ppt. at each step), followed
by partial evapn. of the soln. and prolonged standing gave
17,17-dimethyl-18-norandrostane-3β,12,13-triol, m. 202-7°, in
the form of mixed plates and needles, which could not be
sepd. by crystn. (from MeOH and Me$_2$CO). The triol (0.1
g.) in 2 ml. dry pyridine was kept 1.5 days with 1 ml.
Ac$_2$O yielding 0.09 g. *3,12-diacetate of 17,17-dimethyl-18-norandrostane-3β,12β,13β-triol*, m. 194-4.5° (from EtOAc).
Ia (2.7 g.) kept 2 days in 11 ml. dry pyridine and 3 ml. Ac$_2$O
gave 2.97 g. *17α-methyl-5-androstene-3β,17-diol 3-acetate*, m.
175-6° (from EtOAc). This (1.33 g.) in 12 ml. dry pyri-
dine treated at −12° with 1.8 ml. POCl$_3$ and allowed to
stand overnight at room temp. gave 1.13 g. product, m. 86-
94°, which chromatographed on Al$_2$O$_3$ in ligroine gave *17-methyl-5,12-androstadien-3β-ol acetate* and *17-methylene-5-androsten-3β-ol acetate*, m. 93-4°, and 133-4°. The mixed
acetates hydrogenated over Pt in AcOH to *17-methylandro-stan-3β-ol-acetate*, m. 94-5°, $[\alpha]_D^{20}$ −8.18° (CHCl$_3$) (cf.
Julia and Heusser, *C.A.* 47, 7530a). This (0.15 g.) in 2.5
ml. MeOH refluxed 1.2 hrs. with 0.2 g. K$_2$CO$_3$ in 1.0 ml.
H$_2$O gave 0.13 g. *17-methylandrostan-3β-ol*, m. 139.5-40°
(from EtOH).

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Some properties of esters of p-toluenesulfonates of 17β-
hydroxysteroids. VII. Infrared spectra of some derivatives
of androstane and 18-norandrostane series. O. S. Madaeva
and Yu. N. Sheinker (S. Ordzhonikidze All-Union Chem.
Pharm. Research Inst., Moscow). Zhur. Obshchei Khim.
26, 3201-6(1956); cf. C.A. 47, 3320c.—Infrared spectra of
Vaseline suspensions of several steroids are reported: 17-
methylandrostenol-3β, 17,17-dimethyl-18-norandrostanol-
3β, 17,17-dimethyl-18-nor-Δ^{13}-andro-tenol-3β, 17,17-di-
methyl-18-nor-$\Delta^{5,13}$-androstadienol-3β, 17,17-dimethyl-18-
norandrostanetriol-3β,12,13. Introduction of Me groups in
the 17 position has little or no effect on the infrared spectra.
Cleavage of p-$MeC_6H_4SO_3H$ from 3-acetate 17-tosylate of
Δ^5-androstenediol-3β,17β occurs with retropinacol rearrange-
ment. This yields mainly the acetate of 17-methyl-18-
norandrostadienol-3β with admixt. of the acetate of 17-
methyl-18-nor-$\Delta^{5,13}$-androstadienol-3β, as shown by the
spectra.

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Distr: 4E4j

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Some properties of esters of *p*-toluenesulfonates of 17β-hydroxysteroids. VIII. Location of the secondary-tertiary double bond in 3-β-acetates of 17-methyl-18-norandrostenol and androstadienol. O. S. Madaeva (S. Ordzhonikidze All-Union Chem. Pharm. Sci. Research Inst., Moscow). *Zhur. Obshchei Khim.* 27, 2573-8(1957); cf. C.A. 50, 6908g; 51, 7152g.—Hydrogenation of 3-acetate of Δ^5-androstene-3β,17β-diol (m. 142-3.5°) in AcOH over Pt gave *3-acetate of androstane-3β,17β-diol*, m. 114-15° (chromatography on Al_2O_3). This with tosyl chloride in cold pyridine in 20 hrs. gave *3-acetate 17-tosylate of androstane-3β,17β-diol*, m. 173-4.5°, which refluxed with MeOH-KOH 1.5 hrs. gave *androstane-3β,17β-diol 17-tosylate*, m. 131-2°, which treated with EtMgCl in boiling Et_2O and finally in hot C_6H_6 gave after acidification, isolation of crude product, and treatment with Ac_2O-pyridine at room temp. *17-methyl-18-nor-$\Delta^{13(17)}$-androsten-3β-ol acetate*, m. 88-9.5° (after chromatography on Al_2O_3 in petr. ether). The dark mass remaining after sepn. of 3-acetate 17-benzoate of Δ^5-androstene-3β,17β-diol was freed of BzOH and chromatographed on Al_2O_3 in petr. ether-C_6H_6 yielding *3-acetate 17-benzoate of Δ^5-androstene-3β,17α-diol*, m. 130-1°, which with *N* MeOH-NaOH gave *Δ^5-androstene-3β,17α-diol*, m. 195-8.5°, which hydrogenated in AcOH over Pt to *3β,17α-androstanediol*, m. 212.5-13.5°, which heated with 90% HCO_2H 11 min. and 2 hrs. at 30°

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gave the *diformate*, m. 152–4°, which heated carefully with excess 90% HCO_2H 60 min. at 95° gave a layer of clear oil and a violet soln.; after extn. with petr. ether there formed 0.11 g. cryst. substance which was not identified and the filtrate gave *17-methyl-18-nor-$\Delta^{13(17)}$-androsten-3β-ol formate*, m. 109–10°, which sapond. with aq. MeOH-K_2CO_3 in 1.25 hrs. at reflux and treated with Ac_2O in pyridine gave after chromatography on Al_2O_3 the corresponding *acetate* (I), m. 87–8.5°. Hydrogenation of I in AcOH over Pt gave *17-methyl-18-norandrostan-3-ol acetate*, m. 96–8°. Reduction of androstan-3-ol-17-one with N_2H_4 in diethylene glycol at 210° gave *androstan-3β-ol*, m. 148–8.5°; *acetate*, m. 85.5–87°. G. M. Kosolapoff

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TIMOFEYEVA, A.G., MADAYEVA, O.S., GUSAKOVA, Ye.G., KOYLKINA, N.F.,
MEN'SHOVA, N.I., NOVIKOVA, V.M.

Hydroxylation of progesterone to 11 α-oxyprogesterone by the use of Rhizopus nigricans [with summary in English]. Izv.AN SSSR. Ser.biol. no.6:712-718 N-D '58 (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze, Moskva.
(PROGESTERONE)
(HYDROXYLATION)
(FUNGI)

MADAYEVA, O.S.; RUZHENTSEVA, A.K.; MEN'SHOVA, N.M.; PERVACHEVA, T.D.;
CHEMERISSKAYA, A.A.

Paper chromatography and spectrophotometry in the analysis of steroids. Med.prom. 12 no.3:9-16 Mr '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(STEROIDS--ANALYSIS) (CHROMATOGRAPHIC ANALYSIS)
(SPECTROPHOTOMETRY)

CHETVERIKOVA, L.S., MADAYEVA, O.S.

Quantitative extraction of diosgenin from the yam root.
Med.prom 12 no.8:28-30 Ag '58 (MIRA 11:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(DIOSGENIN)
(YAMS)

МАДАЕВА, О. С.

AUTHORS: Madayeva, O. S. 79-2-61/64

TITLE: Steroidal Sapogenins (Steroidnyye sapogeniny).
III. The Sapogenins of Rootstocks and Leaves of the Yucca Filamentosa From the Caucasian Black Sea Coast (III. Sapogeniny kornevishch i list'yev Yucca Filamentosa s chernomorskogo poberezh'ya Kavkaza).

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 531-536 (USSR)

ABSTRACT: The heterogeneity of saponins produced from yucca filamentosa is known. Thus, e.g. 1.1% gitogenin was isolated from the leaves of yucca filamentosa growing in California, hytogenin, tigogenin (Tigogenin) and mexogenin (Meksogenin) were isolated from the leaves of y.f. growing in Southern France, while Cerny (ref. 10) isolated 0,72% tigogenin from leaves of y.f. growing in Czechoslovakia. On the occasion of the present investigation the roots and the leaves of y.f. named in the title which were made available by the Allunion Institute for Medicinal and Aromatic Plants (VILAR) were investigated. Extraction and hydrogenation of the roots were carried out in principle according to the Wall method (ref. 11), however methanol was used for extraction instead of ethanol and the purification was made with

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Steroidal Sapogenins. III. The Sapogenins of Rootstocks and Leaves
of the Yucca Filamentosa From the Caucasian Black Sea Coast.

butanol. 0,45% of a sapogenin mixture were obtained. Saponins
insoluble in water were precipitated ⊢⊣ on the investigation
of which a separate report will be given. A precipitate was
isolated from the aqueous solution of the sapogenins by means
of subjection to chromatographic adsorption on aluminum oxide
and it was observed that it is identical with sarsapogenin (sar-
sapogenin). This was proved by elementary analysis, melting
point and R_f as well as by the examination of the infra-red
spectrum of acetate. The separation of the second mono-oxy sa-
pogenin was carried out on chromatographically paper. In the sa-
pogenin mixture tigogenin and hecogenin (gekogenin) were identi-
fied by infra-red spectra in acetates. The extraction of the sa-
pogenin from the leaves was carried out in the same way as the ex-
traction from roots. 0,34% tigogenin were obtained. The verifi-
cation of the chromatographic isolation conditions according to
Woll (ref. 13,14 and Cerny (ref. 1o) showed that on the occasion
of the application of the first method the resinous impurities
are together with the mono-oxy sapogenins when washed with chlo-
roform, while, according to the second method a separation oc-
curs when washed with ether. Tigogenin isolated according to the
second method showed a higher melting point than that isolated ac-

Card 2/3

cording to the first method. On the occasion of chromatographic investigations on paper of the methanol extracts among others chlorogenin (khlorogenin) and smilagenin (smilagenin) were observed. There are 1 figure, 18 references, 1 of which is Slavic.

ASSOCIATION: **All-Union** Scientific Research Institute for Chemistry and Pharmacy imeni S. Ordzhonikidze (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze)

SUBMITTED: February 7, 1957

AVAILABLE: Library of Congress.

AUTHOR: Madayeva, O. S.

SOV/79-28-7-39/64

TITLE: Steroid Sapogenins(Steroidnyye sapogeniny) IV. A New Sarsasaponin Separated From the Roots of Yucca filamentosa (IV. Novyy sarsasaponin, vydelennyy iz kornevishch Yucca filamentosa)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 7, pp 1988 - 1991 (USSR)

ABSTRACT: Already earlier (Ref 1) the author separated about 0,9% saponins insoluble in water from the Yucca filamentosa growing at the Black Sea (Caucasus border); these saponins gradually precipitated on storing from the aqueous defatted solutions in form of a fine powder of rose-brown color. In the present paper this powder was purified and recrystallized, a white precipitation in the form of long pins (see Figure) having been obtained (283-284°); according to its elementary composition it corresponds to a glucoside of the monoxysapogenin containing 2 molecules of hexose (saponin I). From this the acetate was produced (Ref 2) which according to its elementary composition corresponded completely to the acetylated glucoside. Its saponification with sodium

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Steroid Sapogenins. IV. A New Sarsasaponin Separated From the Roots of Yucca filamentosa SOV/79-28-7-59/64

methylate yielded the initial sapogenin. On the boiling of saponin I in 4 n aqueous methanol solution of hydrochloric acid a resinous crystalline deposition was obtained (57%). The double comparative paper-chromatographic investigation in the presence of controls (sarsasapogenin and imilagenin) only proved a sarsasapogenin. Also chromatographically the author showed that the new sarsasaponin is a glucoside of sarsasapogenin which in the sugar part has two hexose molecules, glucose and galactose. The saponin obtained by the author differs from the saponins described in the table by its composition and physical proportion. There are 1 figure, 1 table, and 9 references, 1 of which is Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni S.Ordzhonikidze)

SUBMITTED: May 25, 1957

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Steroid Sapogenins. IV. A New Sarsasaponin Separated From the Roots of Yucca filamentosa

SOV/79-28-7-59/64

1. Steroids--Separation analysis 2. Yucca filamentosa--Processing 3. Steroids--Chromatographic

Card 3/3

AUTHORS: Serova, N. A., Madayeva, O. S. SOV/79-28-7-60/64

TITLE: Steroid Sapogenins (Steroidnyye sapogeniny) V. Sapogenins of the Leaves of Agave americana L. (V. Sapogeniny list'yev Agave americana L)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 7, pp 1991 - 1993 (USSR)

ABSTRACT: In the investigation of the plants of the Soviet flora with respect to the saponins contained in them the authors were especially interested in the known kinds of plants in which alkaloids had already been found. The conditions of climate, place and soil play a role as concerns the nature of the steroid alkaloids, as had already been mentioned earlier by the authors (Refs 1,2). The Yucca filamentosa, e.g., grows at the same time at the borders of the Black Sea and in South Carolina. In the Russian plant sarsasapogenin, gitogenin and g cogenin (Ref 5) were found. The present paper deals with the composition of the sapogenins of the leaves of the Agave americana L. which is grown at the Caucasus border of the Black Sea. Mar er (Marker)

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Steroid Sapogenins. V. Sapogenins of the Leaves of Agave americana L. SOV/79-28-7-60/64

(Ref 6) separated gecogenin (0,4%) from the leaves of this species, which was also separated from these leaves collected in the South of France by a French scientist. The authors extracted the saponins with water and butanol (2:3). In the defattening of the aqueous solutions and the further extraction of the sapogenins according to the acid hydrolysis as well as according to the alkaline saponification they used xylene. The separation of the technical sapogenins was carried out by means of paper chromatography. The result showed that the leaves of the Agave americana L. contain 0,2% gecogenin with small admixtures of rocogenin. There are 11 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni S.Ordzhonikidze)

SUBMITTED: May 25, 1957

Card 2/3

Steroid Sapogenins. V. Sapogenins of the Leaves of Agave americana L. SOV/79-28-7-60/64

1. Steroids--Sources 2. Steroids--Separation 4. Plants--Ecology 5. Agave --Processing 6. Xylene--Applications

Card 3/3

MADAYEVA, O.S.; SEROVA, N.A.; CHETVERIKOVA, L.S.; SHEYNKER, Yu.N.;
KICHENKO, V.I.

Investigation of some saponin-bearing plants for their content steroid saponin. Trudy VILAR no. 11:229-236 '59. (MIRA 14:2)
(SAPONINS) (BOTANY, MEDICAL)

PKHEIDZE, T.A.; MADAYEVA, O.S.

Steroid sapogenins. Part 7: Sapogenins of the roots and leaves of Yucca recurvifolia of the Black Sea coast of the Caucasus. Zhur.ob.khim. 30 no.6:2067-2070 Je '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze i Tbilisskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut. (Sapogenins)

MADAYEVA, O.S.

Search for steroid sapogenins as sources of raw materials for steroid hormones. Med. prom. 15 no.6:35-38 Je '61. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(SAPOGENINS) (STEROIDS)

MADAYEVA, O.S.; RYZHKOVA, V.K.; PANINA, V.V.

Structure of a water-insoluble saponin from the roots of Dioscorea polystachya Turcz. Report No.10. Med. prom. 17 no.9:9-11 S'63.
(MIRA 17:5)

OPIENSKA-BLAUTH, J.:MADECKA-BORKOWSKA, I.:BORKOWSKI, T.

Determination of phosphorus metabolites by paper chromatography.
Acta physiol. polon. 3 no. 3:315-328 1952. (CLML 23:5)

1. Of the Institute of Physiological Chemistry (Head--Opienska-Blauth, M.D.) of Lublin Medical Academy.

OPIENSKA-BLAUTH, J.; MADECKA-BORKOWSKA, I.

Comparative studies on lactose, glucose, and galactose metabolism in liquid cultures of Escherichia coli. Med. dosw. mikrob., Warsz. 4 no. 3:304 1952. (CIML 23:3)

1. Summary of work progress presented at 11th Congress of Polish Microbiologists held in Krakow May 1951. 2. Lublin.

Madecka-Borkowska, I.

The influence of cobalt ions upon the glucose metabolism and acetoin formation in bacterial cultures. I. Madecka-Borkowska (Akad. Med., Lublin.). *Acta Microbiol. Polon.* 2, 251-62(1953).—The effect of Co ions was studied on the growth and glucose metabolism of *Escherichia coli, Aerobacter aerogenes,* and *Proteus vulgaris* grown in Koser and Clark medium. The changes in glucose in the medium were detd. by paper chromatography. *A. aerogenes* utilizes the glucose the fastest, *E. coli* slightly slower, and *P. vulgaris* the slowest. The chromatographic analysis showed a new reducing substance X (I) in cultures of *A. aerogenes* and *P. vulgaris* after a 48-hr. incubation period. I disappeared in older cultures of *A. aerogenes*, but not in *P. vulgaris*. I was never present in cultures of *E. coli* grown under normal conditions, although it was found when *E. coli* was grown in the presence of CH_3COOH. The eluates made from chromatograms of I as well as from *A. aerogenes* and *P. vulgaris*, as from *E. coli* cultures gave a pos. Voges-Proskauer test; therefore it is assumed that I is related to acetoin. The probable role of I as a precursor of acetoin is substantiated by the fact that the disappearance of I in *A. aerogenes* cultures resulted in the appearance of a pos. V.-P. test. Co ions in a concn. of $10^{-3}M$ delay the growth of the bacteria and retard the transformation of I into acetoin. Richard Ehrlich

Madecka-Borkowska, I.

A substance giving a positive Voges-Proskauer test in cultures of Escherichia coli grown in a liquid medium in the presence of some enzyme inhibitors. J. Opieńska-Blauth, T. Borkowski, and I. Madecka-Borkowska (Akad. Med., Lublin). *Acta Microbiol. Polon.* 2, 263-76(1953); cf. preceding abstr.—The aim of these studies was the identification of the reducing substance X (I), which was found in cultures of *Escherichia coli* grown in Koser medium in the presence of 0.0025*M* CH_2ICOOH. I appeared only when the pH of the medium was 4.0-7.0. The appearance of I was due to the action of many enzyme inhibitors, such as, CH_2ICOOH, selenite, or 8-oxyquinoline. The accumulation of I increased upon the addn. of pantothenic acid or β-alanine to the medium. When I was eluted from paper chromatograms, it gave a pos. V.-P. test, suggesting its relation to acetoin(II); however, chromatographic analysis has shown that it is not identical with II. I may be a precursor of II. I was found inside the cells of *E. coli* when the cells were disintegrated and extd. I is not identical with any compd. known to occur in glucose metabolism in *E. coli*. I cannot be utilized by *E. coli*. A similar reducing substance was found in sour cream-milk; the R_f values of this substance were identical to those of I. R. E.

MADECKA-BORKOWSKA, I.; OPIENSKA-BLAUTH, J.; BORKOWSKI, T.

"Discovery of Positive Voges-Proskauer Reaction in Fluid Cultures of Escherichia Coli in the Presence of Some Enzyme Inhibitors." P. 263, (ACTA MICROBIOLOGICA POLONICA, Vol. 2, No. 4, 1953, Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

MADECKA-BORKOWSKA, I.

POLAND/Microbiology - General Microbiology. F
Variability and Heredity

Abs Jour : Ref Zhur, Biol., No 22, 1958, 99262

Author : Madecka-Borkowska, I.

Inst : Polish AS

Title : Studies on the Variability of E.coli. Variants of E. coli Induced by Iodoacetate

Orig Pub : Bull. Acad. polon. sci., 1957, Cl. 2, 5, No 11, 375-378

Abstract : The strain Esch. coli was cultivated on Koser's medium containing 2.5 . 10^{-3} M of monoiodoacetate acid for 24 hours. Iodoacetate was removed by dialysis and the culture was subinoculated on Koser's medium. The variants obtained differed markedly from the given type and the differences kept increasing as successive subinoculations continued. The variants of the first subinoculations

Card 1/2

POLAND/Microbiology - General Microbiology. F
Variability and Heredity.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99262

lost the ability to form gazes during decomposition of glucose, did not form indole and did not decompose maltose, lactose, saccharose and manite and exhibited an altered morphology (tinier and thinner bacilli). The subsequent subinoculation on Koser's medium without iodoacetate brought about a loss of the ability of decomposing glucose with lower levels of concentration of iodoacetate. The variations related only to the fermentation of lactose, maltose and saccharose. -- G.P. Kalina

Card 2/2

MADECKA-BORKOWSKA, I.

Effect of inhibitor on biochemistry of Escherichia coli and Aerobacter aerogenes. Acta physiol. polon. 8 no.3:432-433 1957.

1. Z Zakladu Chemii Fizjologicznej A. M. w Lublinie. Kierownik: prof. dr J. Opienska-Blauth.

(AEROBACTER AEROGENES, culture,
eff. of inhib. (Pol))
(ESCHERICHIA COLI, culture,
same)

MADECKA-BORKOWSKA, I. ; BORKOWSKI, T.

Determination of amino acids by the paper chromatography method. p. 119 .

CHIMIA ANALITYCZNA. Warszawa, Poland. No. 8, August 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11
November 1959.

Uncl.

BORKOWSKI, T.; MADECKA-BORKOWSKA, I.

Nonphosphorylative glucose oxidation by some strains of Escherichia coli and Aerobacter aerogenes. Bul Ac Pol biol 8 no.4:121-122 '60.
(EEAI 9:10)

1. Laboratory of Physiological Chemistry, School of Medicine, Lublin. Presented by J.Heller.
(GLUCOSE)
(ESCHERICHIA COLI)
(AEROBACTER AEROGENES)

MADECKA-BORKOWSKA, I.; PAPROCKI, A.;

Complexes of ribonuclease and its inhibitors obtained by the cross-electrophoresis method. Bul Ac Pol biol 11 no.6: 267-269 '63.

1. Department of Physiological Chemistry, School of Medicine, Lublin. Presented by J. Heller.

Madeiskiy

POLAND/Forestry. Dendrology. J-4

Abs Jour: Referat Zh.-Biol., No 6, 1957, 22608

Author : Madeiskiy
Inst :
Title : "Podgalian" Pine.

Orig Pub: Chronmy przyr. ojcz., 1956, 12, No 2, 10-12

Abstract: "Podgalian" pine grows on turfy soils in Podgalia and Orava. It is distinguished by its fine growth and form. Its pure plantations are interspersed with treeless turfy grounds. The soils are characterized by their upper layer of structureless loams of 90 cm to 3 m thickness, with an underlayer thickness of sands and gravel easily penetrated by water. The surface waters lie at a depth of 12 m. Despite the deep layer of surface waters the upper soil layers are constantly overmoist and an intensive turf-formation takes place. The upper soil cover consists of Polytrichum and Sphagnum, and also wild rosemary and other hydrophytes. Despite

Card : 1/2 -1-

POLAND/Forestry. Dendrology. J-4

Abs Jour: Referat Zh.-Biol., No 6, 1957, 22608

the unfavorable climatic and soil conditions, the "Podgalian" pine forms plantations principally of the III bonitet, and in some cases the II and even the I. The drainage methods, carried out a few decades ago after an incorrect estimate of the local growth conditions, led in many cases to disappearance of hygrophytes and the appearance of self-sown fir trees. The displacement of "Podgalian" pine by fir is quite undesirable and should be stopped.

Card : 2/2

BITTEL-DOBRZYNSKA, N.; BOJ, E.; MADEJ, B.; MOZOLEWSKA, E.

Differential diagnosis of Letterer-Siwe disease from Hand-Schuller-Christian disease. Pediat. polska 29 no.9:904-909 Sept 54.

1. Z I. Kliniki Chorob Dzieciecych Akademii Medycznej w Gdansku. Kierownik: prof. dr med. H.Brokman. Z Zakladu Anatomii Patologicznej Akademii Medycznej w Gdansku. Kierownik: prof. dr med. W.Czarnocki. Z Zakladu Radiologii Akademii Medycznej w Gdansku. Kierownik: prof. dr med. W.Grabowski.

(RETICULOENDOTHELIOSIS,
Letterer-Siwe dis., differ. diag. from Hand-Schuller-Christian dis.)
(LIPOIDOSIS,
Hand-Schueller-Christian dis., differ. diag. from Letterer-Siwe dis.)

MADEJ, E.

2698 338.5 : 622.273.2.04 : 622.333(438)

Madej E. The Economic Significance of Stowage in Poland's Coal Mining Industry.

„Ekonomiczne znaczenie podsadzki w polskim przemyśle węglowym", Przegląd Górniczy. No. 10, 1953, pp. 347-350. 1 tab.

The cost of hydraulic stowage amounts to from 10 to 13 per cent of the total cost of winning coal. This comprises: excavation of sand and transport — 40%; cost of stowing — 60% (including 40% for pipe-line cost). The cost of stowage more than offsets the working of, roughly, 44% of the total of estimated coal resources which could not be exploited without recourse to stowage. The costs of stowage are reduced by the construction of central sand dumps and a special railway line for the transport of sand, but are raised by using linings in steel pipes.

POLAND

PINKIEWICZ, Edward, Docent, Dr., MADEJ, Eligiusz, and SAMOREK, Mieczyslaw of the Clinic of Internal Diseases (Klinika Chorob Wewnetrznych), Veterinary Division (Wydzial Weterynarji), the WSR [Wyzsza Szkola Rolnicza, Higher School of Agriculture] in Lublin (Director: Prof. Dr. Zdzislaw FINIK) and the PZLZ [Panstwowy Zaklad Leczenia Zwierzat, State Animal Hospital] in Pulawy (Director: Dr. Mieczyslaw SAMOREK)

"Food as the Direct Etiological Factor of Ketosis in Cattle."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 19, No 2, Feb 63, pp 87-91.

Abstract: [Authors' English summary modified] An outbreak of ketosis in a cattle farm in 1961 was diagnosed as direct alimentary ketosis and traced to a "Gigant" variety of beet roots in the animals' diet. Article contains details of study and tabulation of findings. Of the eight references, one is Polish, three German, and four -- English.

1/1

MADEJ, J., mgr., inz.

Computation of a transformer on an electronic digital calculating machine. Przegl elektrotechn 37 no.11:480 '61.

MADEJSKI, Jan (Gdansk)

Heat transfer on finned surfaces with long longitudinal fins.
Inst masz przep PAN no.10:45-56 '62.

ANIOLA ,J., prof. mgr.; BAZAN, J., doc. dr inz.; ZAPALOWICZ, W., doc. dr inz.; MADEJ, J., mgr inz.

Extrusion and rolling of compressor blades. Techn lotn 18 no.12:345-350 D'63.

L 16178-65 EWT(m)/EWP(w)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(b) Pf-4 AEDC(b)/
ASD(p)-3 JD/HW/EM
ACCESSION NR: AP4046512 P/0035/64/000/17-/0532/0533

AUTHOR: Aniola, J. (Professor, Engineer); Bazan, J. (Docent, Doctor, Engineer); Zapalowicz, W. (Docent, Doctor, Engineer); Madej, J. (Master engineer); Danielecki, S. (Master engineer): Smolarkiewicz, A. (Engineer); Brejniak, K. (Engineer); Hadrawa, A. (Engineer)

B

TITLE: Method of manufacturing turbine blades with a locking piece. No. 48272

18

SOURCE: Przeglad mechaniczny, no. 17-18, 1964, 532-535

TOPIC TAGS: turbine blade, turbine blade manufacture

24

ABSTRACT: This paper describes a Polish patent for turbine blades (Nr. 48272, class 49l, group 7, June 10, 1964), owned by AGH, Katedra Maszyn Hutniczych, Krakow (AGH, Department of Metallurgical Machines). The new method is based on successive pressing and rolling of the fin blades. The operation is in specific

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ACCESSION NR: AP4046512

stages set up for the least possible consumption of labor. The initial material is a bar drawn from steel or alloy of a hardness not exceeding 75 HB. The bar is cut into sectors of prescribed measurements (Fig. a) which are carefully pressed. The sections are placed in a special box and into an oven for heating for about 30 min at an optimum temperature for the given material. The hot sections are pressed on a mechanical press, forge, etc., equipped with a suitably formed bipartite tool and an automatic device for heating this tool. The blade locking piece is formed in the tool (Fig. 1-b [1]), yet the cross section (Fig. 1-b [2]) along the entire fin is the same and corresponds to the cross section at the base of the completed fin (Fig. 1-b [3]). The second stage of the operation is periodic rolling of the fin on a specially braced roller and application of the grooved rolls. The pressing and rolling is carried out at a constant and even temperature of about 400 C as in the case of the WD-17 alloy (Fig. 1-c). In the rolling traction the fin obtains the required tapering and twist. On completion of the rolling, the fin is trimmed (Fig. 1-d) and the locking piece is machined. Next, the finished blade undergoes heat treatment: pickling in an aqueous solution of caustic soda, rising in water of a temperature of 90 C, brightening in an aqueous solution of nitrous acid, and drying in a jet of hot air. To safeguard against warping during the treatment, the blade is put through the rolling mill for additional sizing. Orig. art. has: 4 figures.

Card 2/4

L 16178-65

ACCESSION NR: AP4046512

ASSOCIATION: AGH, Katedra Maszyn Hutniczych, Krakow (Department of Metallurgical Machines, AGH)

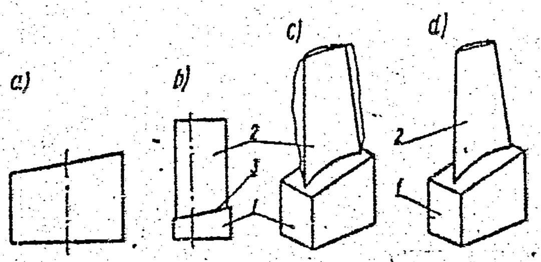
SUBMITTED: 10Jun64 ENCL: 01 SUB CODE: PR, IE

NO REF SOV: 000 OTHER: 000

Card 3/4

L 16178-65
ACCESSION NR: AP4046512

ENCLOSURE: 01



Card 4/4

DOERFFER, Jerzy, prof. dr inz.; BURAU, Herman, mgr; ZABIELLO, Erazm, mgr inz.; STOLAREK, Piotr; MURZYNSKI, Konrad, mgr inz.; MADEJ, Jan

Twenty years at the seaside and on the sea. Przegl techn 85 no.26:6,7 28 Je'64.

1. Chairman of the Voivodeship Contacts Committee, Central Technical Organization, Gdansk (for Doerffer). 2. Chief Executive, Polish Ocean Lines, Gdynia (for Burau). 3. Chief Executive, Komuna Paryska Shipyards, Gdynia (for Zabiello). 4. Chairman, Gdansk Voivodeship People's Council (Stolarek). 5. Director, Gdansk Association of the Building Industry (for Murzynski). 6. Secretary of the Gdansk Voivodeship Committee of the Trade-Unions. (for Madej).

Madej, J.

DOBEK, Stanislaw; HETNAL, M.; HYży, Wl.; MADEJ, J.; MARCZYŃSKI, K.;
PISARCZYK, A.; ZYLOWSKI, J.

Eclampsia at the Krakow Clinic for the last 50 years. Gin. polska 28 no.2:171-175 Mar-Apr 1956.

1. Z I Kliniki Polosnictwa I Chorób Kobiecych A.M. w Krakowie. Kierownik: prof. dr. St. Schwars. Stanislaw Dobek--Krákow, ul. Kopernika 23.
(Eclampsia, statistics
clin. statist., in Poland (Pol))

KLIMEK, Rudolf; MADEJ, Jan; MATUSZEWSKI, Henryk

Use of syntocynon-spray in artificial abortion procedures. Polski tygod. lek. 16 no.31:1190-1191 31 Jl '61.

1. Z I Kliniki Poloznictwa i Chorob Kobiecych A.M. w Krakowie; kierowni
Kliniki: prof. dr Stefan Schwarz.

(ABORTION THERAPEUTIC) (OXYTOCIN)

KLIMEK, Rudolf; MADEJ, Jan; PIETRZYCKA, Maria

Clinical evaluation of the intravenous oxytoxin test. Polski tygod. lek. 16 no. 34:1309-1311 21 Ag '61.

1. Z I Kliniki Poloznictwa i Chorob Kobiecych A.M. w Krakowie; kierownik Kliniki: prof. dr Stefan Schwarz.

(OXYTOCIN pharmacol)

SCHWARZ, Stefan; KLIMEK, Rudolf; MADEJ, Jan; MATUSZEWSKI, Henryk;
OSUCHOWSKI, Jerzy; SOLARZ, Edward

Oxytocin analogues in obstetrics and gynecology. Ginek. pol. 34 no.4:487-490 '63.

1. Z I Kliniki Poloznictwa i Chorob Kobiecych AM w Krakowie Kierownik Kliniki: prof. dr med. S. Schwarz.

MADEJ, Jan; MATUSZEWSKI, Henryk; CIEMIECKI, Jerzy; SOLARZ, Edward

Ectopia decidua on the vaginal portion of the uterus. Ginek. Pol. 36 no.5:569-575 My '65.

1. Z I Kliniki Położnictwa i Chorob Kobiecych AM w Krakowie (Kierownik: prof. dr. med. S. Schwarz).

NAJDER, Janusz, adiunkt; MADEJ, Jerzy, mgr., inz., starszy asystent

Revolving boring tool of the IBW-NM type and it's application in organic soils. Archiw hydrotech 8 no.4:617-622 '61.

1. Instytut Budownictwa Wodnego Polskiej Akademii Nauk, Gdansk-Wrzeszcz.

MADEJ, Jerzy; WERNO, Maciej

Testing the angle of internal friction of certain drifted sands. Rozpr hydrotechn no.11:205-214 '62.

MADEJ, Jerzy; WERNO, Maciej

Influence of soil adhesion to the rod of the vane-apparatus on the measuring results of shear resistance of soil. Rozpr hydrotechn no. 15:231-243 '64.

MARKOWSKI, A.; MADEJ, M.

Changes in phosphorus compounds of winter and spring wheat embryos at 20°C and at vernalization temperature (1.5°C). Bul Ac Pol biol 10 no.4:139-144 [d] '62.

1. Department of Plant Physiology, College of Agriculture, Krakow and Institute of Plant Physiology, Krakow, Polish Academy of Sciences. Presented by A.Listowski.

MADEJ, R.

Burning of spent sulfite liquors. Rudolf Madej. *Przegląd Papier.* 10, 75-6, 85-6(1954).—A review of process conditions and equipment for burning concd. Ca-base spent sulfite liquor, with particular reference to the results obtained in the sulfite pulp mill at Loddby, Sweden. T. R. Z.

MADEJ, Rudolf, mgr inz.

Explanations of the author of the book: "Economical steam management in industry." Energetyka przem 10 no.12:431-432 D '62.

MADEJ, Rudolf, mgr.inz.

On the need for quality control of coal supplied to our paper mills. Przegl papier 18 no.6:198-201 Je '62.

MADEJ, Rudolf, mgr inz.

Remarks on electric power installations in the Finnish pulp and paper industry. Przegl papier 19 no.10:317-323 O'63.

MADEJ, Rudolf, mgr inz.; MONKIEWICZ, T., mgr inz.; MARECKI, Jacek, dr inz.

Problem of computing the efficiency of a thermal electric power plant. Gosp paliw 11 no.11:412-416 N '63.

MADEJ, Rudolf, dipl. ing. (Poland)

Complex index numbers of specific energy consumption in industry.
Ipari energia 5 no.3:61 M '64.

MADEJ, Rudolf, mgr inz.

Reducing pipe limiting steam consumption as a means of obtaining a more uniform process in a cellulose boiling shop. Gosp paliw 12 no.10:338-339 O '64.

MADEJ, S.

Fuel Abst.
Vol. 15 No. 4
Apr. 1954
Natural Solid Fuels:
Winning

✓ 2686. ECONOMICS OF STOWING IN POLISH COAL MINING INDUSTRY. (Przegl. gorn. (Min. Rev.), Oct. 1953, vol. 9, 347-350). (L).

MADEJ, STANISLAW

Winorosl. Wyd. 3. Warszawa, Panstwowe Wydawn. Rolnicze i Lesne, 1957. 224 p.
(Grapevines. 3d ed.)
DA Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

~~Poland~~

MADEJ, S.

[illegible]

Abs. Jour : Ref Zhur-Khimiya No 14, 1959, No 51105

Madej, S.

Author : Rogozinski, A.; Madej, S.

Institute : –

Title : Biological Souring of Juices and Wines

Orig Pub. : Przemysl. owoc.-warzyw. i konserw., 1958, [illegible], No [illegible], 37-39

Abstract : Presented are theoretical bases and modern concepts pertaining to the reasons of biological souring of juices and wines. -- G. Ushryan

Card: 1/1

1/54

Country : POLAND H-28

Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 51717

Madej, S.

Author : Madej, S.; Rogozinski, A.

Institute : –

Title : Methods of Forestalling Souring in Fruit Juices

Orig Pub. : Przemysl. owoc.-warzyw. i koncentr., [illegible], No 4, [illegible]

Abstract : Reviewed are reasons of fruit juices souring, and practical directions of the [illegible] affecting [illegible] forces are given together with the instructions pertaining to the cleanliness of buildings and of process equipment.
-- G. Oshryan

Card: 1/1

H-122

B

Investigation of Calcined Pyrites Containing Zinc (In Polish.) **Part II. Agglomeration of Calcined Pyrites by Sintering.** St. Holewinski and W. Madej. **Part III. Volatilization of Zinc During Sintering of Calcined Pyrites.** M. Smialowski and J. Niewiadomski. *Prace Badawcze Glownego Instytutu Metalurgii i Odlewnictwa,* v. 2, no. 2, 1950, p. 101-110.

Part II describes sintering tests using the down-draft method on pyrites containing 47.38% Fe and 8.51% Zn. Shows that difficulties in the sintering process are mainly due to small particle size. Satisfactory results were obtained by adding 20% slag from rotary kilns. In Part III removal of Zn by the down-draft sintering process was investigated. Pb and S were largely removed, but the amounts of Zn and As remaining were too large for successful application of the method.

METALLURGICAL LITERATURE CLASSIFICATION

MADEJ, W.

X **Briquetting of Ores Fines for Steel Plants.** K. Radzwicki,
W. Madej, and W. Stronczak. (*Prace Glownego Inst. Met.*,
1951, No. 3, 173–181). [In Polish]. Very good results were
obtained in briquetting ore concentrates by Jarcho's method
(used in U.S.S.R.) in which fines are mixed with small amounts
of iron filings, water, and sodium chloride (0·5–1%). The
method is based on corrosion processes which bind ore particles
together. The highest strength of briquettes and the shortest
time of hardening are obtained when the components are
mixed so as to obtain the highest temperature increase during
the corrosion process. Best results are obtained if the mix is
pressed when at its highest temperature. However, sodium
chloride is objectionable due to the destructive influence of
alkali on refractory linings. Experiments were therefore
made in which CaO, HCl, $MgCl_2$, H_2SO_4, ferrous sulphate,
and spent pickling liquor were used as substitutes for sodium
chloride. Investigations were made with ore concentrates
containing Fe 71·2%, SiO_2 1·57%, CaO 2·29%, MgO
0·43%, P 0·13%, and S 0·039%. In laboratory experiments
cylindrical briquettes (dia. and height about 50 mm., weight
about 400 g.) were made at a pressure of 250 kg./sq. cm.
Industrial briquettes (250 × 130 × 65 mm. weighing 6–7 kg.)
were made on a brick-making machine at the same pressure.
Fresh briquettes were left in the air under cover, and samples
were tested every day for strength to follow the process of
hardening. Minimum requirements for a briquette were
taken from Russian practice, namely: (1) Compression
strength min. 50 kg./sq. cm.; (2) shatter test: a briquette
dropped twice on a steel plate from a height of 2 m. must not
produce more than 10% fines (below 5 mm.); (3) porosity not
more than 5–10%; (4) briquettes must not crumble when

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20* **Sintering of Iron Ores.** In Polish. **Part I. Theoretical Basis of the Sintering Process.** W. Madej and B. Seweryński. **Part II. Effect of Increased Vacuum on the Sintering Process.** S. Holewinski, W. Madej and B. Seweryński. *Prace Glownego Instytutu Metalurgii*, v. 3, no. 5, 1951, p. 351-374.

In Part I, important factors such as grain size, agglomeration and compactibility were investigated. The problem of porosity and strength of sinters is discussed. A method of calculating sintering efficiency is described. In Part II the effect of vacuum on sintering time of different ores was studied, as well as effects of various additions. Vacuum of about 1200 mm. H_2O was found best in most cases. Numerous graphs and tables.

MADEJ, W.

"Obtaining manganese iron from manganese ores" (P. 376). HUTNIK (Panstwowe Wydawnictwa Techniczne) Katowice, Vol. 20, No. 12, Dec. 1953.

SO: East European Accessions List, Vol 3, No. [illegible], Aug 1954.

MADEJ, Z.; KUCIAS, J.

New local branch of the N. Copernicus Polish Society of Naturalists in Katowice. Wszechswiat no.9:223-224 S '63.

MADEJ, Z.

Shall we make reserves? Pod org 17 no.10:476 O '63.

MADEJA, Jozef, (Opole)

The Opole Society of Friends of Science. Review Pol Academy 6 no. 4:53-55 O-D '61.

MADEJA, Jozef, docent

The Opole Association of Friends of Sciences in Opole; foundation, activity and its role in the scientific and cultural life in the Opole Silesia. Nauka Polska 9 no.3:143-149 '61.

1. Przewodniczacy Wydzialu I Towarzystwa Przyjaciol Nauk w Opolu
Prezes: Horn, Maurycy, docent.

L 9511-66 EWP(j)/T RM

ACC NR: AP6002230 SOURCE CODE: CZ/0043/65/000/003/0186/0191

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AUTHOR: Madeja, K. 44

ORG: Institute of Inorganic Chemistry of the Ernst-Moritz Arndt University, Greifswald, East Germany (Institut fur Anorganische Chemie der Ernst-Moritz-Arndt Universitat) 44 44

TITLE: Preparation and magnetic behavior of [Fe(phen) sub 2 X sub 2] complexes 7,44 [Paper presented at the Symposium on the Structure and Properties of Coordinated Compounds held in Bratislava from 2 to 4 September 1964] 44

SOURCE: Chemicke Zvesti, no. 3, 1965, 186-191

TOPIC TAGS: intermolecular complex, coordination chemistry, organoiron compound

ABSTRACT: Complexes of the type $[Fe(phen)_2X_2]$ are obtained by releasing 1,10-phenanthroline from the corresponding $[Fe(phen)_3X_2]$salts by means of suitable organic reagents or by a direct reaction of ferrous salts with 1,10-phenanthroline solution in pyridine. In the series of these compounds both high-spin and low-spin complexes are formed, together with compounds with a reduced paramagnetism, and in the case of $[Fe(4,7\text{-}dmphen_2)mal]^*$ and $[Fe(dipy)_2(NCS_2]^*$ also isomers distinguished by different magnetic moments. [*mal = malonate; dm = dimethyl; phen = phenanthroline; dipy = 2,2'-dipyridyl]. The author thanks Prof. Dr. S. Herzog for the encouraging interest and the appropriation of the Institute's facilities, Chem.-Engr. W. Wilke, Grad. Chemist S. Schmidt, and Candidate of Chemistry W. H. 44 44 44

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Bohmer for cooperation in the preparations and Grad. Chemist E. Wulf for the carrying out of the magnetic measurements. Orig. art. has: 2 figures and 3 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: none / OTH REF: 007

Card 2/2

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N-Chloroamides and their derivatives. Amides and *N*-chloroamides of 4-azobenzenesulfonic acid and derivatives. Roman Madeja (Univ. Łódź, Poland). *Łódz. Towarz. Nauk* III, No. 39, 63–75(1955)(English and Russian summaries); cf. Chrząszczewska, *C.A.* 32, 1674⁶; *C.A.* 49, 211e.—Azobenzene added to 5 times its wt. of fuming H_2SO_4 (20% SO_3) and heated to 130° gave 4-azobenzenesulfonic acid, from which, by treatment of its sulfonyl chloride with aq. NH_3, 4-azobenzenesulfonamide (I) was obtained, m. 224–5°. I in H_2O with 50% excess KOCl at 2° gave a ppt. of $PhN:NC_6H_4SO_2NClK.3H_2O$ (II), decomp. 160°, sensitive to light. Chlorination of the K salt of I in excess KOH soln. gave *N,N*-dichloro-4-azobenzenesulfonamide (III), m. 110–11°. III, I, and KOH in aq. soln. at 60° gave II. Diazotization of sulfanilamide followed by coupling with $PhNMe_2.HCl$ and addn. of NaOH gave 4′-dimethylamino-4-azobenzenesulfonamide (IV), m. 260–1°; hydrochloride, m. 190–5°. IV with NaOCl in H_2O gave $Me_2NC_6H_4N:NC_6H_4SO_2NClNa.0.5H_2O$ (V), explosive decompn. at 150°. The *N,N*-dichloro deriv. of IV could not be obtained. II (0.1 mole) in H_2O with 0.01 mole dibenzyl sulfide in dioxane gave 46% *S,S-dibenzyl-N-(4-azobenzenesulfonyl)sulfilimine* (VI), m. 170–1° (decompn.). Similarly, *S,S-dibenzyl-N-(4′-dimethylamino-4-azobenzenesulfonyl)sulfilimine* (VII) was obtained from V in 61.8% yield, m. 251.5–3°. On hydrolysis of VI with concd. HCl I was isolated. Hydrolysis of VII in diox-

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N-Chlorbamides & their derivatives

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ane-acetone soln. with concd. HCl gave, after removal of solvent and extn. with Et_2O, dibenzyl sulfoxide. II oxidize mercaptans quantitatively to disulfides. Thus, $HSCH$ CO_2H in N HCl was titrated with 0.5N (KI and starc as indicator). The theoretical amt. of II was used, and th titrated soln. contained I and $S_2(CH_2CO_2H)_2$, m. 107-9° Diazotized sulfanilamide, coupled with $PhNHCH_2SO_3N$ (from $PhNH_2$ and $HOCH_2SO_3Na$) in the presence of AcON gave 95% $H_2NO_2SC_6H_4N:NC_6H_4NHCH_2SO_3Na$ which after heating with N NaOH, gave 76% *4'-amino-4-azobenzenesulfonamide* (VIII), m. 234-8°; 72% *4'-acetamido deriv* (IX) was obtained from VIII and Ac_2O in acetone, m. 280-1°. The NH_2 group in VIII was detected by diazotization and coupling with β-naphthol; reduction of IX with Zn and AcOH gave p-$H_2NC_6H_4NHAc$, m. 160-1°. N-Chloro derivs. could not be obtained from VIII and IX. A. T. C.

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MADEJA, Z.

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Synthesis of 1,4-bis(5-amino-2-methylphenylsulfonamido)benzene, as an intermediate in the production of azo dyes. A. Chrząszczewska, J. Czerniak, Z. Madeja, and M. Nowaczyk. *Bull. soc. sci. et lettres Łódź, Classe III* 6, No. 4, 5 pp.(1955).—To 1.0 mole p-$H_2NC_6H_4NH_2$ (I) in boiling toluene was added AcONa, then 2.2 moles 2,5-Me(O_2N)$C_6H_3SO_2Cl$ (II) in toluene with stirring, the whole refluxed 3.5 to 4.0 hrs., the solid filtered, washed with toluene and hot HCl, the washed solid dissolved in dil. alkali, the soln. treated with C, filtered, and the filtrate acidified to give 1,4-[2,5-Me(O_2N)$C_6H_3SO_2NH$]$_2C_6H_4$ (III), yellow crystals, m. 260°. To aq. Na_2S at 90-5°, with stirring, was added III and NH_4Cl, in portions, maintaining the pH at 9, the whole heated 8 hrs., made acid to Congo red, the hot soln. treated with C, filtered, and the filtrate cooled to give 1,4-[2,5-Me(H_2N)$C_6H_3SO_2NH$]$_2C_6H_4$.di-HCl (IV). III and $SnCl_2$ also gave IV, but no details are given. Diazotized IV with H acid and gamma acid in acid soln. gave red and purple azo dyes suitable for dyeing wool. p-$O_2NC_6H_4Me$ 1 mole was added to 3.9 moles $ClSO_3H$ at 70° and the whole heated 4 hrs. at 115-20° to give II (78.8-97.3% pure), m. 42.0-4.5 (from glacial AcOH). **1,4-Bis(3-aminophenylsulfonamido)benzene and its derivative azo dyes.** A. Chrząszczewska, Z. Madeja, and J. Wieczorek. *Ibid.* No. 2, 6 pp. (1955).—I, AcONa, and m-$O_2NC_6H_4SO_2Cl$ gave 1,4-(m-$O_2NC_6H_4SO_2NH$)$_2C_6H_4$ (V), colorless crystals, decomp. approx. 250°; V and Na_2S gave 60% 1,4-(m-$H_2NC_6H_4SO_2NH$)$_2C_6H_4$ (VI), colorless crystals, m. 235-7° (from EtOH). Condensation of diazotized VI and 1,3,7-HO(HO_3S)(H_2N)$C_{10}H_5$ in acid and alk. medium gave a brown dye, decomp. 270°; VI and 2,6,8-H_2N(HO_3S)(HO)$C_{10}H_5$ gave a red dye, decomp. 275°.

Harry L. Yale

Distr: 4E3d 7

Studies on fluorene derivatives. Fluorene-4-carboxaldehyde. Witold E. Hahn, Zofia Madeja, and Tadeusz Piechocki (Univ. Łódź, Poland). *Roczniki Chem.* **33**, No. 6 - 1505-6(1959)(German summary).—Schemes were given for prepn. of 4-formylfluorene (I) (m. 123-5°; 2,4-dinitrophenylhydrazone m. 198-200°) from fluorenone- (II) or fluorene-4-carboxylic acid (III). The action of thiophenol on acid chlorides of II or III in C_6H_6 (in presence of C_5H_5N) yielded the resp. thiophenol esters (IV), acetal m. 168-70°, and (V), m. 92-4°. The action of a large excess of Raney Ni catalyst (deactivated by heating in Me_2CO) on IV or V gave I. A. Kreglewski

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HAHN, Witold E.; MADEJA-KOTKOWSKA, Zofia

Studies on products of reduction of some hydroxycarbonyl derivatives of 1,2-benzo-Δ^1-cycloheptene. Rocz chemii 37 no. 7/8:915-917 '63.

1. Department of Organic Chemistry, University, Lodz.

~~MADEYCHIK, A~~. [Madejczyk, A.]

Results of X-ray treatment of grade III and IV breast cancer.
Vop.onk. 5 no.11:546-548 '59. (MIRA 14:7)

1. Institute of Oncology, Warsaw, Poland. Adres avtora: Varshava,
Vavel'skaya ul. d.15, Institut onkologii.
(BREAST—CANCER) (RADIOTHERAPY)

EXCERPTA MEDICA Sec 16 Vol 7/11 Cancer November 59

★4771. **The clinical use of ethylene imiquinone ('E 39')** Próby stosowania E-39 w klinice nowotworów. MADEJCZYK A., UKLEJA-BORTKIEWICZ A., ZBORZIL J. and ZELECHOWSKA A. Oddz. Ogólnej Onkol., Inst. Onkol. im. Marii Sklodowskie-Curie, Warszawa *Nowotwory* 1959, 9/2 (157-162)

This drug was administered to 22 women and 30 men (from 21-72 yr.) including 39 persons with epithelial, 10 with non-epithelial, and 3 with lymphatic tumours, all histologically confirmed. Among these 52 patients, 21 had had no previous treatment, 14 had been irradiated, 11 operated upon and irradiated, 4 irradiated, and 2 treated with chemotherapeutics other than 'E 39'. Ethylene-imiquinone treatment was instituted 3 or more months after the termination of irradiation. The drug was administered intravenously or topically, as well as orally. The total dose was 300-1,000 mg., adminstered within 3-18 weeks. The most frequent complications consisted of leucopenia, lymphocytopenia or thrombocytopenia, digestive symptoms being less common (nausea, loss of appetite). Two patients developed jaundice, and one trophic lesions of the mucous membrane of oral cavity and skin. A subjective improvement was observed in 16 cases, including 12 with epithelial tumours, 1 with leukaemia, and 3 with non-epithelial neoplasms; 7 of them had had no X-ray therapy, 6 had been irradiated, 2 operated upon; sarcomycin had been applied in one case. Eight patients showed objective improvement, reflected radiologically by the regression of neoplastic lesions and a cessation in the accumulation of peritoneal fluid.

Albert - Wroclaw

KOSZAROWSKI, T.; MADEJCZYK, A.

Organization of cancer in Poland. Neoplasma 9 no.3:315-322 '62.

1. Oncological Institute, Warsaw, Poland.
(NEOPLASMS prevention & control)

MADEJCZYK, Anna; ZBORZIL, Jozef; ZELECHOWSKA, Anna; ZULAWSKI, Maciej

Evaluation of chemotherapy of advanced tumors according to data of the Chemotherapy Unit of the Institute of Oncology in Warsaw. Nowotwory 14 no.1:49-52 Ja-Mr '64.

1. Instytut Onkologii w Warszawie (Dyrektor: prof. dr. med. W. Jasinski).

Madejczyk, E.

Experiences with the Brigade of Excellent Quality in the steel plant of the 1st V.M. Molotov Ironworks in Trinec. p. 373. HUTNIK. (Ministerstvo hutniho prumyslu a rudnych dolu) Praha. Vol. 4, no. 12, Dec. 1954.

Source: EEAL LC Vol. 5, No. 10 Oct. 1956

MADEJCZYK, E.

Economical production of steel in the V. M. Molotov Ironworks. p.246.
HUTNIK. (Ministerstvo hutniho prumyslu a rudnych dolu) Praha.
Vol. 5, No. 8, August 1955.

SOURCE: East European Accessions List (EEAL), Library of Congress,
Vol. 4, No. 12, December 1955.

KOSZAROWSKI, Tadeusz; MADEJCZYKOWA, Anna

Chemotherapy in the treatment of malignant neoplasms. Pol.tyg. lek. 20 no.22:787-788 31 My '65.

MADEJSKA, B.; ZIELINSKA, D.

Silicon oils. Wiad naft 11 [i.e.9] no.2:33-35 F '63.

MADEJSKA, B.

Evaluation methods of the protective properties of solid lubricants. Wiad naft 9 no.7/8:168-170 '63.

MACZEL, Henryk, mgr.; MADEJSKA, Barbara, mgr.

Protective properties of lubricants. Nafta Pol 19 no.2:38-42 F '63.

1. Centralne Laboratorium Produktow Naftowych, Warszawa.

MADEJSKA, P., mgr; MADEJSKI, K.

Chromatographic semimicromethod of testing [illegible] oils.
Nafta Pol 20 no.5:123-126 My'64.

1. Institute of Petroleum Technology, Warsaw Branch.

MADEJSKI, CZESLAW

POLAND/Forestry - General. K.

Abs Jour : Ref Zhur - Biol., No 21, 1958, [illegible]

Author : Madejski, Czeslaw
Inst : --
Title : The Need to Save the Tatra Forests.

Orig Pub : Las Polski, 1958, 32, No 4, 4-5.

Abstract : No abstract.

Card 1/1

Madejski, J.

Madejski, J. The torsion of prismatic bars with double-T cross-section. Arch. Méc. Appl., Gdańsk 3, 61–67 (1951). (Polish. Russian summary)

Arutyunyan [Akad. Nauk SSSR. Prikl. Mat. Meh. 13, 107–112 (1949); these Rev. 10, 651] and Abramyan [ibid. 13, 551–556 (1949); these Rev. 11, 288] showed a method of solving the torsion problem for prismatic bars. The author solves a similar problem for a bar with an ideal double-T cross-section consisting of regular rectangles with sharp edges. The stress function U is given in the form of an infinite series depending on parameters L_k which are defined by an infinite system of simultaneous linear equations. The system, being regular, can be solved by successive approximations. The author obtains the formula for torsional rigidity, from which maximal stresses can also be evaluated. The results depend on T, a function of the cross-section dimensions. The values of T are tabulated. The numerical values of torsional rigidity found by the author are compared with corresponding values obtained from empirical formulas and they differ by −3.7% to +319%. The empirical formulas appear to give only a reasonable agreement for very slender cross-sections.

T. Leser.

Source: Mathematical Reviews, Vol 13 No 1

MADEJSKI, J.

Mathematical Reviews
Vol. 14 No. 7
July - August, 1953
Analysis.

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Madejski, J. Solution of Laplace's equation for certain boundary conditions and its application to the theory of heat conduction in homogeneous isotropic solid bodies. Arch. Méc. Appl., Gdańsk 3, 147–156 (1951). (Polish. Russian summary).

In this paper there is considered the stationary heat exchange through the walls of a conduit with square cross section and of infinite length. The method is essentially that which N. H. Arutyunyan used for solving the torsion problem of a rod of polygonal cross section [Akad. Nauk SSSR. Prikl. Mat. Meh. 13, 107–112 (1949); these Rev. 10, 651]. The solution is obtained in the form of an infinite series.

H. P. Thielman (Ames, Iowa).

MADEJSKI, J.

Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Mechanics

Madejski, J. **The theory of the oscillational governors.** Arch. Méc. Appl., Gdańsk 3, 371–417 (1951). (Polish. English summary)

The paper discusses the performance of (marine-engine) inertial relay governors of the "on-off" type. A shaft-driven rocker carries a weight ("relay") which can revolve, relative to the rocker, about an axis either parallel (class I) or perpendicular (class II, exemplified by the Aspinall type) to the axis of oscillation of the rocker. Some of the discussion is no more than program.

Let α be the angular displacement of the relay relative to the rocker, ϕ that of the rocker, a known function of the shaft angle ψ, and let $\dot{\psi}=\omega$. The force exerted by the relay on the cut-off lever (at contact) is proportional to $\ddot{\alpha}$, hence the maximum ω for action will occur at $\dot{\omega}$, while the minimum ω will occur at the maximum ϵ of $\dot{\omega}$ (assumed given). For both classes of regulators and $\dot{\omega}=0$, the author obtains (after considerable linearization) the equation $\alpha''+L\alpha=M\psi''+A_0$, where the primes indicate differentiation with respect to the shaft angle ψ, and L, M, A_0 are constants. Some numerical examples are given to justify the usefulness of the approximation.

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MADEJSKI, J. 2/2

Another equation, linear in α'', α', α, but with coefficients depending on ψ, is derived for the case of constant $\omega = \epsilon$. For negligible rocker velocities, this equation can be integrated by quadratures involving Bessel functions but this solution is useless for design purposes. This makes the author turn to rather obscure approximations leading to an estimate of the ratio of minimum and maximum ω for action. Next the permissible maximum initial ($\alpha = 0$) tension of the spring pressing the cut-off lever against the relay, is connected with ω, and the angular shaft displacement from $\alpha = 0$ to the instant of action. The remainder of the paper (too difficult to follow for this reviewer) is devoted to the study of "the process of regulation, the degree of nonuniformity of engine operation", the influence of trim, list, rolling, and pitching. There is a remark about the emergency device that prevents racing on sudden load reduction.

A. W. Wundheiler (Chicago, Ill.).